

CLAIMS:

1. A batch process for the preparation of kraft pulp with improved yield from lignin-containing cellulosic material, comprising the steps of
- 5 - filling and pressurizing said vessel with impregnation liquor collected from a previous batch, said impregnation liquor admixed with, or preceded by an addition of, a volume of polysulfide white liquor;
- impregnating the cellulosic material with the resulting mixture of impregnation liquor;
- displacing the impregnation liquor with hot spent cooking liquor;
- 10 - reacting the impregnated cellulosic material with said hot spent liquor;
- displacing hot spent cooking liquor with a volume of hot white liquor and cooking the cellulosic material with said white liquor to a desired degree of delignification;
- displacing the liquor used for cooking.
- 15 2. The process of claim 1, wherein the amount of polysulfide white liquor added corresponds to 25 – 90 % of the total active alkali dosage for the batch.
3. The process of claim 1, wherein the amount of polysulfide white liquor added corresponds to 50 – 75 % of the total active alkali dosage for the batch.
- 20 4. The process of claim 1, wherein the polysulfide dosage corresponds to 0,5 – 5 % relative to abs. dry wood.
5. The process of claim 1, wherein the volume of polysulfide white liquor is added
- 25 separately to the digester before the impregnation liquor.
6. The process of claim 1, wherein an amount of cooking catalyst is added to the hot white liquor.
- 30 7. The process of claim 6, wherein the cooking catalyst is anthraquinone, anthraquinone sulfonate, hydroanthraquinone or a redox-catalyst derivative thereof.

8. The process of claim 1, wherein hot spent liquor displaced from the digester is collected in a single hot liquor tank.
9. The process of claim 1, wherein after the cook is finished, a volume of impregnation liquor is introduced into the digester as the first volume of displacement liquor.
10. The process of claim 1, wherein a volume of impregnation liquor is transferred from an impregnation liquor tank to a hot spent cooking liquor tank.
11. The process of claim 10, wherein the digester system comprises two hot spent liquor tanks.

AMENDED CLAIMS

**[Received by the International Bureau on 24 June 2005 (24.06.2005):
originals claims (1-11) replaced by amended claims (2 pages)]**

CLAIMS

1. A batch process for the preparation of kraft pulp with improved yield from lignin-containing cellulosic material, comprising the steps of
 - filling and pressurizing a vessel containing cellulosic material with impregnation liquor collected from a previous batch, said impregnation liquor admixed with, or preceded by an addition of, a volume of polysulfide white liquor;
 - impregnating the cellulosic material with the resulting mixture of impregnation liquor;
 - displacing the impregnation liquor with hot spent cooking liquor;
 - reacting the impregnated cellulosic material with said hot spent liquor;
 - displacing hot spent cooking liquor with a volume of hot white liquor and cooking the cellulosic material with said white liquor to a desired degree of delignification;
 - displacing the liquor used for cooking.
2. The process of claim 1, wherein the amount of polysulfide white liquor added corresponds to 25 – 90 % of the total active alkali dosage for the batch.
3. The process of claim 1, wherein the amount of polysulfide white liquor added corresponds to 50 – 75 % of the total active alkali dosage for the batch.
4. The process of claim 1, wherein the polysulfide dosage corresponds to 0,5 – 5 % relative to abs. dry wood.
5. The process of claim 1, wherein the volume of polysulfide white liquor is added separately to the digester before the impregnation liquor.
6. The process of claim 1, wherein an amount of cooking catalyst is added to the hot white liquor.
7. The process of claim 6, wherein the cooking catalyst is anthraquinone, anthraquinone sulfonate, hydroanthraquinone or a redox-catalyst derivative thereof.

8. The process of claim 1, wherein hot spent liquor displaced from the digester is collected in a single hot liquor tank.
9. The process of claim 1, wherein after the cook is finished, a volume of impregnation liquor is introduced into the digester as the first volume of displacement liquor.
10. The process of claim 1, wherein a volume of impregnation liquor is transferred from an impregnation liquor tank to a hot spent cooking liquor tank.
11. The process of claim 10, wherein the digester system comprises two hot spent liquor tanks.